



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street
San Francisco, CA 94105-3901

JUN 08 2015

Department of the Army
Directorate of Public Works
United States Army Garrison, Hawaii
ATTN: IMHW-PWE (L. Graham)
947 Wright Avenue
Wheeler Army Airfield
Schofield Barracks, Hawaii 96857-5013

Subject: Draft Environmental Impact Statement for the Schofield Generating Station Project, United States Army Garrison, Schofield Barracks, Hawaii (CEQ# 20150108)

Dear Ms. Graham:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the Schofield Generating Station Project pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

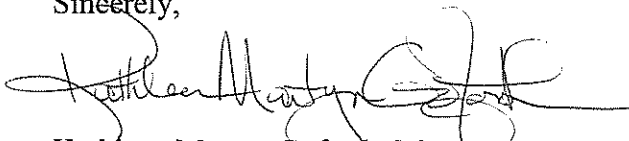
The EPA supports the U.S. Army's goals of improving energy security and increasing renewable energy generation at Army facilities. Accelerating the development of renewable resources and the deployment of clean energy technologies in Hawaii will help the state meet its energy demand, reduce dependence on imported oil, create new jobs, and provide for increased energy security, while reducing greenhouse gas emissions. EPA understands that the proposed Schofield Generating Station Project (SGSP) would result in the construction and operation of a 50 megawatt capacity biofuel-capable power generation plant that would operate on biofuel or a mix of biofuel and either diesel or liquefied natural gas (LNG). As such, it would be a potential source of renewable power that would provide energy security to Schofield Barracks, Wheeler Army Airfield, and Field Station Kunia in the event that service is lost from normal sources supporting these facilities, while providing Hawaiian Electric Company with a quick-starting facility in a secure location away from the coastline.

Based on our review of the DEIS, we have rated the proposed project and the document as *Environmental Concerns – Insufficient Information (EC-2)*. Please see enclosed *Summary of EPA Rating Definitions*. While the air quality analysis in the DEIS includes emissions estimates for criteria pollutants, hazardous air pollutants, and greenhouse gases for three different SGSP operating scenarios based on different fuel mixes, it does not include emission estimates for construction, mobile sources, or ground disturbance. In addition, the DEIS does not address the issue of sustainability, as it pertains to biofuels. Using biofuels has the potential to reduce greenhouse gas emissions, but only if the biofuels are developed in a sustainable manner.

We recommend that the Army provide, in the Final EIS, an updated air quality analysis that includes estimates for construction emissions. We also recommend that the Final EIS provide additional information on biofuels, including measures to ensure that feedstocks are grown and converted into fuel in a sustainable manner. Our detailed comments are enclosed.

We appreciate the opportunity to review this DEIS, and are available to discuss our comments. When the Final EIS is released for public review, please send one hard copy and one CD-ROM to the address above (Mail Code: ENF-4-2). If you have any questions, please contact me at 415-972-3521, or contact Ann McPherson, the lead reviewer for this project. Ann can be reached at 415-972-3545 or mcpherson.ann@epa.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kathleen Martyn Goforth', written over a horizontal line.

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosures: Summary of the EPA Rating System
EPA's Detailed Comments

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

Sustainability of Biofuels

The Draft Environmental Impact Statement (DEIS) indicates that the Schofield Generating Station Project (SGSP) would be capable of using several types of fuels, including locally produced biofuels, if and when they become available (pg. 4-8), but it does not discuss the sustainability of biofuels as a feedstock for the facility. Life cycle emissions, including greenhouse gases (GHG), from biofuel are generally much lower than from fossil fuel;¹ however, the benefits of biofuels are only fully realized if the fuels are developed in a sustainable manner. Otherwise, the net benefits may be diminished by the impacts on water, soil, biodiversity, air, habitats, and waste generation that can result from the cultivation of crops for biofuel.

Assessing the net effect of a biofuel on GHG emissions requires analysis of emissions throughout the biofuel's life cycle, including: planting and harvesting the crop; processing the feedstock; transporting the feedstock and final fuel; and storing, distributing and retailing the biofuel. Critical factors related to the agricultural production process include fertilizer and pesticide use, irrigation technology, and soil treatment. Land-use changes associated with expanded biofuel production can also have a major impact. It is important to note that lifecycle emissions of biodiesel vary according to feedstock, with biodiesel produced from waste grease resulting in lower net GHG emissions than those produced from soybeans. The DEIS does not discuss lifecycle emissions of biofuels, diesel, or liquefied natural gas (LNG).

In 2007, the Hawaiian Electric Company and the Natural Resources Defense Council joined in developing an environmental policy to guide the utility's procurement of biofuel from sustainably produced feedstock. Revised in 2013, the policy² asserts that a transition from petroleum fuels to biofuels derived from sustainably-produced and, preferably, locally-sourced feedstock offers enormous potential for near-term, dramatic reductions in GHG emissions and increased security from continuing oil market price hikes and potential supply interruptions. Under the revised policy, Hawaiian Electric will purchase biofuels only from suppliers that comply with RSB³ Principles & Criteria for agricultural, end-of-life⁴ and waste water⁵ feedstock or similar certifications. The DEIS does not mention this policy.

Recommendations:

Discuss, in the Final Environmental Impact Statement, the issue of sustainability as it relates to biofuels that may be used in the proposed facility. Include consideration of biofuels produced in Hawaii, as well as biofuels produced elsewhere, since either may be used in the SGSP.

¹ IPCC, 2011: IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation. Prepared by Working Group III of the Intergovernmental Panel on Climate Change. See internet address: <http://srren.ipcc-wg3.de/report/>, pp. 732 and 734, figures 9.8 and 9.9.

² See internet address: https://www.hawaiianelectric.com/vcmcontent/StaticFiles/pdf/HECO-NRDC_Biodiesel_Policy.pdf

³ In March 2011, the Roundtable on Sustainable Biomaterials (formally the Roundtable on Sustainable Biofuels "RSB") launched a global, universal sustainability standard which describes the requirements for sustainably-produced biofuels and biomass.

⁴ End-of-life products include Municipal Solid Waste and Used Cooking Oil.

⁵ Waste water includes greases, fats, and any other lipid-rich material, which can be transformed into biodiesel, as well as starchy material or cellulosic elements, which can be used to produce bioethanol.

Include, in the Final EIS, a lifecycle analysis of GHG emissions associated with biofuels, diesel, and LNG.

Discuss, in the Final EIS, the environmental policy for Hawaiian Electric Company's procurement of biofuel from sustainably produced feedstock, and how the U.S. Army and/or Hawaiian Electric would ensure that biofuel used in the SGSP would be produced sustainably.

Consider incorporating into the project a commitment by the Army and/or Hawaiian Electric to use a third-party certification system to verify that biofuel feedstocks are grown and converted into fuel in a sustainable manner. Such systems measure and verify environmental performance of fuels throughout all major stages of the product life cycle, including feedstock production, fuel production, and end use, while considering a range of criteria at each stage that address impacts on water, soil, biodiversity, air, land use, and waste.

Air Quality

Air Emissions from Construction

The DEIS does not provide estimates for air emissions associated with the construction of the SGSP and installation of the transmission lines. Instead, the document states that there will be short-term minor adverse effects that would end when construction ended (pg. 3-30). An evaluation is necessary to ensure compliance with state and Federal air quality regulations and to disclose the potential impacts from temporary or cumulative degradation of air quality.

Recommendations:

In the Final EIS, describe and estimate emissions from potential construction activities, as well as proposed mitigation measures to minimize these emissions. Specify emission sources by pollutant from mobile sources and ground disturbance, including the transport of fuel.

Air Emissions from the SGSP

Table 3.4-1 in the DEIS presents federal and state air quality standards and the monitored concentrations of criteria pollutants at the monitoring location closest to Schofield Barracks (pg. 3-24). The DEIS does not identify the monitoring location or the time period for monitor data presented in Table 3.4-1.

Recommendation:

Identify, in the Final EIS, the location and time period for monitor data presented in Table 3.4-1.

In Section 3.4.2.1.2.4, the DEIS states that preliminary modeling inputs, assumptions, and results are contained in Hawaiian Electric's *Prevention of Significant Deterioration & Covered Source Permit Application for the SGSP* and supplemental modeling report (Hawaiian Electric, 2014 a, 2014c). More recent information is available in the PSD & CSP permit application for the SGSP submitted by Hawaiian Electric in January 2015.

Recommendation:

Include, in the Final EIS, a reference to Hawaiian Electric's January 2015 *Prevention of Significant Deterioration & Covered Source Permit Application for the SGSP*.

Table 3.4-6 in the DEIS presents estimated emissions of criteria pollutants, hazardous air pollutants, and GHGs under three operating scenarios for the SGSP (pg. 3-31). Table 3.4-7 presents estimates for the SGSP's Potential to Emit (PTE) and compares it to PSD Major Source Thresholds. We compared data in these two tables to values presented in Table 2.0-1 of the *Prevention of Significant Deterioration & Covered Source Permit Application for the SGSP (January 2015)*. Discrepancies were noted for the following parameters:

| | Table 3.4-7 | Table 2.0-1 |
|-------------------|-------------|-------------|
| PM ₁₀ | 139.8 | 130.1 |
| PM _{2.5} | 139.8 | 130.1 |
| Lead | 0.0 | 0.03 |
| Fluorides | 0.0 | 0.02 |
| Mercury | 0.0 | 0.002 |
| SO ₂ | 10.1 | 9.4 |

Recommendation:

Ensure that the values for PM₁₀, PM_{2.5}, lead, fluorides, mercury, and SO₂ are correct in Table 3.4-7. Explain why they differ from those presented in Table 2.0-1 of the PSD/CSP permit application.

Hawaiian Electric also submitted a *Proposed Schofield Generating Station Weight of Evidence Ambient Air Quality Analysis*, dated January 2015. There were minor differences in the maximum predicted concentrations for PM₁₀, PM_{2.5}, and NO₂, compared to the September 2014 submittal.

Recommendation:

Ensure that the values for PM₁₀, PM_{2.5}, and NO₂ are correct in the Final EIS.

Indirect Emission Reductions

According to the DEIS, the operation of the generating station would indirectly reduce the emissions of some criteria pollutants and GHGs by reducing the use of off-post fossil fuel-based electricity (pg. 3-29). Table 3.4-8 indicates that the indirect reductions in regional emissions of SO₂ and GHGs, (and NO_x, in the case of LNG) would be beneficial and appreciably greater than direct operational emissions from the proposed SGSP. The DEIS does not define, however, what type of fossil fuel combustion project was used to estimate the emission reductions shown in Table 3.4-8. In addition, the values for SO₂ differ between Tables 3.4-6 and 3.4-8.

Recommendations:

Specify the type of fossil fuel combustion project that was used to calculate the indirect emission reductions shown in Table 3.4-8.

Ensure that the values used for SO₂ emissions are correct in Tables 3.4-6 and 3.4-8. If they differ, explain why.

Nonbiogenic CO₂e Emissions

In Table 3.4-6, GHG emissions are calculated for six constituents – carbon dioxide, N₂O, methane, total carbon dioxide equivalent, biogenic CO₂e, and nonbiogenic CO₂e. Table 3.4-5 summarizes which operating scenarios provide the highest and lowest levels of emissions for criteria pollutants, HAPs, and GHGs. According to Table 3.4-5, GHG emissions are lowest for 100% biodiesel. According to the GHG data presented in Table 3.4-6, however, only nonbiogenic CO₂e emissions are lowest for 100% biodiesel (pg. 3-31).

Footnote “b” in Table 3.4-5 states that GHGs are net, based on life cycle analysis, including nonbiogenic CO₂e, as reflected in Table 3.4-8 (pg. 3-30). However, a note at the bottom of Table 3.4-8 states that nonbiogenic emissions do not account for increases from transportation, storage, and processing of fuels or other indirect sources of GHGs (pg. 3-35). These two notes seem to be contradictory; therefore, it is unclear whether a lifecycle analyses has been completed for any component of the fuel system.

Recommendations:

Clarify, in the Final EIS, whether the values utilized in Table 3.4-5 for GHGs represent only nonbiogenic CO₂e emissions or all CO₂e emissions.

Clarify whether a lifecycle analysis has been completed for biodiesel, diesel, or LNG, and if so, whether the lifecycle analyses included biogenic CO₂e and/or nonbiogenic CO₂e.

Ensure that footnote “b” in Table 3.4-5 and the note at the bottom of Table 3.4-8 regarding nonbiogenic emissions are correct. Revise if necessary.

Biogenic CO₂e emissions

According to the DEIS, it is generally understood that GHG emissions from the burning of biogenic fuels do not increase the total amount of GHGs in the Earth’s atmosphere and, therefore, do not contribute to global warming as much as the burning of fossil fuels (pg. 3-28). The DEIS acknowledges that there are often indirect CO₂ emissions and changes in carbon sequestration from land use changes if the energy consumption for harvesting or production of biofuels is included in the analysis. In addition, transportation, storage, and processing of biofuel also have some amount of CO₂ emissions. The DEIS mentions that EPA is studying the effects of these and other factors to more accurately account for biogenic CO₂ emissions from stationary sources and includes a reference for EPA’s 2011 report, *Draft Accounting Framework for Biogenic Carbon Dioxide (CO₂) Emissions from Stationary Sources*.

More up to date information is available. In November 2014, the EPA released a second draft of the technical report, *Framework for Assessing Biogenic CO₂ from Stationary Sources*. This revised report presents a framework for assessing the extent to which the production, processing, and use of biogenic material at stationary sources results in a net atmospheric contribution of biogenic CO₂ emissions. In addition, EPA’s current thinking pertaining to biogenic CO₂ emissions within the context of the Clean Power Plan and the Prevention of Significant Deterioration Program is described in a memorandum dated November 19, 2014. Links to these documents and further information on CO₂ emissions associated with bioenergy and other biogenic sources can be found at EPA’s webpage: <http://www.epa.gov/climatechange/ghgemissions/biogenic-emissions.html>.

Recommendation:

Update, in the Final EIS, the status of EPA's involvement in assessing biogenic CO₂ emissions from stationary sources.

CEQ's Revised Draft Guidance on Greenhouse Gases and Climate Change

On December 24, 2014, the Council on Environmental Quality released, for public comment, revised draft guidance that describes how federal departments and agencies should consider the effects of greenhouse gas emissions and climate change in their NEPA reviews. The revised draft guidance supersedes the draft greenhouse gas and climate change guidance released by CEQ in February 2010.

Recommendation:

Update, in the Final EIS, Section 3.4.1.5, *Regulatory Setting and Permitting for GHG*, to reflect the new CEQ draft guidance.

Hawaii's Clean Energy Initiative and H.B. 623

The DEIS discusses Hawaii's renewable portfolio standard (RPS) goals (pg. 1-6), but information about the Hawaii Clean Energy Initiative and recent legislation focused on increasing Hawaii's RPS goals is not included. The Hawaii Clean Energy Initiative (HCEI) is a partnership between the State of Hawaii and the U.S. Department of Energy, launched in 2008, that set the goal of achieving 70% clean energy generation in Hawaii by 2030 – including 40% of the State's energy from renewable sources and 30% from efficiency measures. Renewable fuels, including biofuels and other non-petroleum based fuel that can be produced sustainably, are an essential part of the HCEI energy strategy.

H.B. 623 was launched in January 2015, approved by legislators in May 2015, and is currently under review by the Hawaii Governor's office. H.B. 623 would increase Hawaii's RPS goals to 30% by December 31, 2020, 70% by December 31, 2040, and 100% renewable energy by December 31, 2045. The purpose of this legislation is to further reduce Hawaii's dependence on imported fossil fuels and promote the growth of the state's renewable energy industry.

Recommendations:

Discuss, in the Final EIS, the Hawaii Clean Energy Initiative, recent updates to it, and its strategy for biofuels.

Update, in the Final EIS, the discussion on Hawaii's RPS goals to include H.B. 623.